

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

Addendum 5 for Projects With Location Changes Awarded Funding
Through the Alternative and Renewable Fuel and Vehicle
Technology Program Under Solicitation PON-13-607 – Hydrogen
Refueling Infrastructure



CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

March 2016

CEC-600-2014-007-AD5

CALIFORNIA ENERGY COMMISSION

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ADDENDUM 5

The *Localized Health Impacts (LHI) Report for Selected Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-13-607-Hydrogen Refueling Infrastructure* was posted June 19, 2014 (CEC-600-2014-007)¹. This addendum applies the same approach to assess the potential localized health impacts for projects with location changes. First Element Fuel Inc. is proposing location changes for two locations. One proposed location change is under the project titled “Hydrogen Refueling Stations in Northern California,” and the other is under the project titled “Hydrogen Refueling Stations in Southern California (and One Connector).” The newly proposed stations have the same characteristics, equipment, installation work, and capacity as the original proposed station locations.

Table 1 lists the original and newly proposed addresses, environmental justice² indicators, and new surroundings.

Table 1: Original and Proposed New Site Locations for First Element Fuel Inc. With Environmental Justice Indicators and New Surroundings

Original Site Location	New Site Location	EJ Indicators for New Location	Surroundings for New Location (within 1-mile radius)
690 Veterans Boulevard, Redwood City, CA 94063	41700 Grimmer Boulevard, Fremont, CA 94538	Minority	Densely populated area with more than 10 schools, 10 day care centers, and 4 medical offices/hospitals
30081 Crown Valley Parkway, Laguna Niguel, CA 92677	3102 Thousand Oaks Boulevard, Thousand Oaks, CA 91362	Age	Densely populated area with more than 10 schools, 8 day care centers, and more than 10 medical offices/hospitals

Source: Energy Commission staff analysis

1 Brecht, Patrick, 2014. *Localized Health Impacts Report*. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2014-007.

2 The EJ indicators follow: (i.) minority subset represents more than 30 percent of a given city’s population (2010), (ii.) city’s poverty exceeds California’s poverty level of 15.9 percent (2009-2013), (iii.) city’s unemployment rate exceeds California’s unemployment rate of 5.8 percent as of December 2015, and (iv.) city’s percentage of persons younger than 5 years of age or older than 65 years of age is 20 percent higher than then California’s average. Note: For the entire state, the percentage of persons under the age of 5 years is 6.8 percent, and the percentage of persons over the age of 65 years is 11.4 percent.

Air Quality and EJ Indicators

Fremont and Thousand Oaks are in nonattainment zones for ozone, particulate matter (PM³) 2.5, and PM 10. Fremont has one EJ indicator (minority) and Thousand Oaks has one EJ indicator (age). If a project site is in a nonattainment zone and has more than one EJ indicator, as shown in Table 2, it is considered a high-risk community, according to the Environmental Justice Screening Method⁴. Therefore, even though both proposed First Element Fuel Inc. locations are in densely populated areas, neither is considered a high-risk community.

Table 2: EJ Indicators Compared With California
Yellow highlighted areas indicate numbers that meet the definition for EJ indicators.

	Persons Below Poverty Level (2009-2013)	Black persons (2010)	American Indian and Alaska Native (2010)	Persons of Hispanic or Latino Origin (2010)	Asian (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of age (2010)	Unemployment (December 2015)
California	15.9%	6.2%	1.0%	37.6%	13.0%	6.8%	11.4%	5.8%
EJ Indicators	>15.9%	>30.0%	>30.0%	>30.0%	>30.0%	>8.16%	>13.8%	>5.8%
Fremont	6.0%	3.3%	0.5%	14.8%	50.6%	7.1%	10.2%	3.4%
Thousand Oaks	6.8%	1.3%	0.4%	16.8%	8.7%	5.2%	14.7%	5.3%

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: http://www.labormarketinfo.edd.ca.gov/CES/Labor_Force_Unemployment_Data_for_Cities_and_Census_Areas.html and Demographics information from the U.S. Department of Commerce, U.S. Census Bureau: <http://quickfacts.census.gov/qfd/states/06/0622594.html>

Location Analysis and Community Impacts

Based on staff's assessment of the proposed new site locations in Fremont and Thousand Oaks, it is anticipated that the surrounding communities will not be disproportionately impacted by the implementation of the projects. As with the original locations, the equipment will consist of hydrogen storage tanks and compression and dispensing equipment. Delivery and storage will be in high-pressure composite trailers. The truck delivery frequency will be similar to the original site estimates. Staff expects that air quality at and near the proposed sites will improve over time because there will be no emissions from the refueling station, outside of the occasional truck delivery of hydrogen. It is anticipated that there will be reduced greenhouse gas emissions as a result of the fuel cell electric vehicles (FCEVs) refueling at the stations. The approval and subsequent construction of the stations will support a growing number of FCEVs.

3 "Particulate matter" is unburned fuel particles that form smoke or soot and stick to lung tissue when inhaled. The numbers stand for microns in diameter.

4 California Air Resources Board (ARB), *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

As more FCEVs enter the market and displace gasoline, tailpipe pollutants will decrease. The anticipated impact to the communities where the refueling stations will be located is likely positive in terms of cleaner air.